



THINK NAMIBIA

POSTER 2:

NAMIBIA'S INNOVATIVE APPROACHES TO ADDRESS WATER INSECURITY



Namibia is an arid to semi-arid country with scarce and unpredictable rainfall and the average annual rainfall is 250 millimeters per annum. Due to the unpredictable rainfall conditions, the flow in the rivers in the interior of Namibia is seasonal, irregular and unreliable. The potential of the ephemeral surface water sources (i.e. they only flow after heavy rainfall) is therefore very limited and the water can only be used when the runoff is harnessed in dams during the rainy season.

The pattern of rainfall in Namibia is also highly seasonal with rain during the summer months (between October and April) in the north and winter rainfall in the south. The perennial rivers (i.e. rivers that flow throughout the year) are located at the northern and southern borders of Namibia; hence all four of these rivers (Okavango, Kunene, Zambezi and Orange-Senqu) form part of shared watercourses with other countries situated along the banks of these rivers.

THE CHALLENGE FOR NAMIBIA

Namibia's water demand challenges include:

- The agricultural sector is the largest water user in the country. Over 40% of water demand is for irrigation. The demand is expected to increase to about 65% by the year 2030.
- Meeting domestic water and industrial demand in the interior of Namibia is becoming a challenge due to increasing population caused by urbanisation. This calls for improving operations and management of water infrastructure as well as investments into innovative systems to address the water needs.

DID YOU KNOW?

73% of the Earth's surface is water.

97% of the Earth's water is in the oceans and seas - 3% is fresh water in glaciers, lakes, ground water, rivers, and the atmosphere.

Water is a finite resource, which means that we do not have an endless supply. Less than 1% of all the water on Earth can be used by people so the rest is either permanently frozen or is salt water.

Namibia is the driest country south of the Sahara and water is scarce.

All the rivers in Namibia's interior are ephemeral, which means they flow only after intensive rains. Their surface water potential is limited because they rely directly on variable (often low) rainfall.

NAMIBIA'S WATER INNOVATIONS

Namibia implements various water conservation and water demand management approaches. Innovative approaches to address the country's water insecurity include:

Inter-basin transfers and integrated use of dams

Inter-basin transfer is when water is transferred from one river basin to another. Windhoek, which is also the biggest industrial and financial centre in Namibia relies mainly on three major dams, the Von Bach and Swakoppoort dams on the Swakop River and the Omatako Dam for its water supply. A river basin is a water catchment area that is demarcated according to the common drainage flows of major water sources such as rivers, groundwater systems (aquifers), water supply canals and pipelines.

Water Reuse, Recycling and Reclamation

Reuse, recycling and reclamation are technologies that allow for water that has already been used to be utilised again. The Gammams wastewater treatment plant is the county's biggest wastewater treatment plant with a capacity 26 million litres of water. Semi-purified water is pumped from this plant to the new Goreangab Reclamation Plant where the water is further treated and supplied to the residents of the City of Windhoek.

Desalination of seawater and brackish groundwater

Desalination is the removal of salts, minerals and impurities in water. The Areva mine desalination plant located at Wlotzkasbaken, 30 km north of Swakopmund, is the first of its kind in southern Africa to treat seawater to a potable state that can be used for mining purposes. Other examples of innovative desalination plants were installed by the CuveWaters project. Two pilot plants were installed in the villages of Amarika and Akutsima in northern Namibia. These plants operate on solar energy and can produce up to 5 000 litres water per day, which is used by the residents of these towns for everyday needs.

For more information on innovative approaches to address water insecurity in Namibia and how to conserve water at home, visit: www.enviro-awareness.org.na

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